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TEST REPORT OF FINE AGGREGATE

Lab ID	:	CP-2018-03-06-05 **Date: 08-03-18**
Customer	:	Assistant Executive Engineer, Yelahanka Sub division, BBMP, Bangalore.
Address	:	Yelahanka Sub division, BBMP, Bangalore.
Project Name	:	Improvements to footpath and providing cobble stones at Yelahanka new town 5th phase HIG block in ward No.02 of Yelahanka Sub Division.
Agency	:	Sri. Y.A.Dhanashekar No10, K.H.B.ColonyYelahanka, Bangalore-64
Customer's Reference	:	EE(YNK.D)E-PMT-14/W.O/142/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	06-03-18
Sample ID No	:	2018-03-06-05 /03
Sample Type	:	Fine Aggregate
Reference to BIS codes	:	IS 383 : 2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1, 3) RA2012 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption
Date of test	:	06-03-18
Total weight taken	:	1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	31	31	3.1	96.9	90-100	90-100	90-100	95-100
3	2.36 mm	182	213	21.3	78.7	60-95	75-100	85-100	95-100
4	1.18 mm	158	371	37.1	62.9	30-70	55-90	75-100	90-100
5	600 micron	201	572	57.2	42.8	15-34	35-59	60-79	80-100
6	300 micron	211	783	78.3	21.7	5-20	8-30	12-40	15-50
7	150 micron	148	931	93.1	6.9	0-10	0-10	0-10	0-15
8	Pan	69	1000	100.0	0.0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

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TEST REPORT OF CEMENT CONCRETE KERB STONE

Date: 10-03-18

Lab ID	:	**CP-2018-03-06-05**
Customer	:	Assistant Executive Engineer, Yelahanka Sub division, BBMP, Bangalore.
Address	:	Yelahanka Sub division, BBMP, Bangalore.
Project Name	:	Improvements to footpath and providing cobble stones at Yelahanka new town 5th phase HIG block in ward No.02 of Yelahanka Sub Division.
Agency	:	Sri. Y.A.Dhanashekar No10, K.H.B.ColonyYelahanka, Bangalore-64
Customer's Reference	:	EE(YNK.D)E-PMT-14/W.O/142/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	06-03-18
Sample ID No	:	2018-03-06-05 /04
Sample Type /Size	:	CC Kerb Stone/ 450*165*400mm
Reference to BIS codes	:	IS: 516 - 1959 Methods of Tests for Strength of Concrete
Date of test	:	07/03/2018

Sl. No.	Identification Mark	Diameter of the core	Height of the core	Weight of the core	Area	Failure Load	Core Compressive strength	Corrected Cylinder Compressive strength	Equivalent Cube Compressive strength
		(mm)	(mm)	Kg	(Sq.mm)	(KN)	(N/mm2)	(N/mm2)	(N/mm2)
1	A	100.54	165.45	2.898	7938	142.1	17.9	17.9	22.4
2	B	100.49	165.52	2.857	7930	145.2	18.3	18.3	22.9
3	C	100.51	165.49	2.970	7933	145.1	18.3	18.3	22.9

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TEST RESULTS OF GRADATION FOR WMM

Lab ID : CP-RW-2018-03-08-12 **Date: 10-03-18**

Customer : Assistant Executive Engineer, Yelahanka Sub division, BBMP, Bangalore.

Address : Yelahanka Sub division, BBMP, Bangalore.

Project Name : Improvements to footpath and providing cobble stones at Yelahanka new town 5th phase HIG block in ward No.02 of Yelahanka Sub Division.

Agency : Sri. Y.A.Dhanashekar No10, K.H.B.ColonyYelahanka, Bangalore-64

Customer Reference : EE(YNK.D)E-PMT-14/W.O/142/2017-18

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 08-03-18

Sample ID No : 2018-03-08-12/01

Type of Mix : WMM (Wet Mix Macadam)

Date of test : 08-03-18

Oven Dry Weight : 10000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	322	322	3.2	96.8	95-100
22.4	2345	2667	26.7	73.3	60-80
11.2	2078	4745	47.5	52.6	40-60
4.75	2119	6864	68.6	31.4	25-40
2.36	1595	8459	84.6	15.4	15-30
0.6	425	8884	88.8	11.2	8-22
0.075	983	9867	98.7	1.3	0-5

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : CP-2018-03-12-14

Date: 16/03/2018

Customer : Assistant Executive Engineer, Yelahanka Sub division, BBMP, Bangalore.

Address : Yelahanka Sub division, BBMP, Bangalore.

Project Name : Improvements to footpath and providing cobble stones at Yelahanka new town 5th phase HIG block in ward No.02 of Yelahanka Sub Division.

Agency : Sri. Y.A.Dhanashekar No10, K.H.B.ColonyYelahanka, Bangalore-64

Customer's Reference : EE(YNK.D)E-PMT-14/W.O/142/2017-18

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 12-03-18

Sample ID No : 2018-03-12-14 /01

Customer ID : RMC

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 16/03/2018

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	RMC	M20	09/03/2018	16/03/2018	149.85 X 150.18 X 150.45	22504	8.214	366.8	16.3	16.7
2	RMC	M20	09/03/2018	16/03/2018	149.87 X 150.33 X 151.98	22530	8.168	385.3	17.1	
3	RMC	M20	09/03/2018	16/03/2018	150.97 X 150.58 X 149.68	22733	8.172	381.9	16.8	

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TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID	:	CP-RW-2018-03-08-12 **Date: 10-03-18**
Customer	:	Assistant Executive Engineer, Yelahanka Sub division, BBMP, Bangalore.
Address	:	Yelahanka Sub division, BBMP, Bangalore.
Project Name	:	Improvements to footpath and providing cobble stones at Yelahanka new town 5th phase HIG block in ward No.02 of Yelahanka Sub Division.
Agency	:	Sri. Y.A.Dhanashekar No10, K.H.B.ColonyYelahanka, Bangalore-64
Customer Reference	:	EE(YNK.D)E-PMT-14/W.O/142/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	08-03-18
Sample ID No	:	2018-03-08-12/01
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)
Date of test	:	08-03-18

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	314.5	314.2
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	70.1	68.4
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	244.0	245.2
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.4	0.6
5	Aggregate impact value	(B/A)*100	22.3	21.8
6	Aggregate impact value (Mean of two tests)	Pecentage	22.0	

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DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2018-03-08-12** **Date: 10-03-18**
Customer	:	Assistant Executive Engineer, Yelahanka Sub division, BBMP, Bangalore.
Address	:	Yelahanka Sub division, BBMP, Bangalore.
Project Name	:	Improvements to footpath and providing cobble stones at Yelahanka new town 5th phase HIG block in ward No.02 of Yelahanka Sub Division.
Agency	:	Sri. Y.A.Dhanashekar No10, K.H.B.ColonyYelahanka, Bangalore-64
Customer Reference	:	EE(YNK.D)E-PMT-14/W.O/142/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	08-03-18
Sample ID No	:	2018-03-08-12/01
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)
Date of test	:	08-03-18

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	10.1%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	12.7%	
Combined Flakiness and Elongation Index for WMM	22.8%	

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID : CP-2018-03-06-05 **Date: 09-03-18**

Customer : Assistant Executive Engineer, Yelahanka Sub division, BBMP,

Address : Yelahanka Sub division, BBMP, Bangalore.

Project Name : Improvements to footpath and providing cobble stones at Yelahanka new town 5th phase HIG block in ward No.02 of Yelahanka Sub Division.

Agency : Sri. Y.A.Dhanashekar No10, K.H.B.ColonyYelahanka, Bangalore-64

Customer's Reference : EE(YNK.D)E-PMT-14/W.O/142/2017-18

Source of Sample : Sample supplied by Agency

Sample Condition : Satisfactory

Date of Receipt : 06-03-18

Sample ID No : 2018-03-06-05 /01

Sample Type : Birla Super 53grade

Reference to BIS codes : IS 12269 : 2013, 53 Grade Ordinary Portland cement Specification ,
IS 4031 (Part 1,2 3,4,5, 6,11):1988
IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4
IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5
IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6
IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5
IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5
IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6

Date of test : 07-03-18

Environmental Conditions during test : Temperature: 26°C
Humidity: 72%

SLNo.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	1.75	–
2	Finess by Air permeablity method (m^2/kg,Min)	282.7	225m^2/kg, Min
3	Density (gm/cc)	3.12	–
4	Standard Consistency (%)	29.0%	Not specified
5	Initial Setting time	155 minutes	Not less than 30 minutes
6	Final Setting time	265 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.0mm	Not more than 10 mm

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2018-03-06-05** **Date: 09-03-18**
Customer	:	Assistant Executive Engineer, Yelahanka Sub division, BBMP, Bangalore.
Address	:	Yelahanka Sub division, BBMP, Bangalore.
Project Name	:	Improvements to footpath and providing cobble stones at Yelahanka new town 5th phase HIG block in ward No.02 of Yelahanka Sub Division.
Agency	:	Sri. Y.A.Dhanashekar No10, K.H.B.ColonyYelahanka, Bangalore-64
Customer's Reference	:	EE(YNK.D)E-PMT-14/W.O/142/2017-18
Source of Sample	:	Sample supplied by Agency
Sample condition	:	Satisfactory
Date of Receipt	:	06-03-18
Sample ID No	:	2018-03-06-05 /02(a)
Sample Type	:	40mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	06-03-18

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : **15000** **grams**

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	292	292	1.9	98.1	90-100
3	20 mm	7498	7790	51.9	48.1	30-70
4	10 mm	5455	13245	88.3	11.7	10-35
5	4.75 mm	1218	14463	96.4	3.6	0-5
6	Pan	537	15000	100.0	0	---

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2018-03-06-05** **Date: 08-03-18**
Customer	:	Assistant Executive Engineer, Yelahanka Sub division, BBMP, Bangalore.
Address	:	Yelahanka Sub division, BBMP, Bangalore.
Project Name	:	Improvements to footpath and providing cobble stones at Yelahanka new town 5th phase HIG block in ward No.02 of Yelahanka Sub Division.
Agency	:	Sri. Y.A.Dhanashekar No10, K.H.B.ColonyYelahanka, Bangalore-64
Customer Reference	:	EE(YNK.D)E-PMT-14/W.O/142/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	06-03-18
Sample ID No	:	2018-03-06-05 /02(b)
Sample Type/ Size	:	20mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2011 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	06-03-18

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	285	285	5.7	94.3	90-100
3	10 mm	3015	3300	66.0	34.0	25-55
4	4.75 mm	1588	4888	97.8	2.2	0-10
5	Pan	112	5000	100	0	–

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TEST REPORT ON COARSE AGGREGATES

Lab ID : CP-2018-03-06-05

Sample ID No : 2018-03-06-05 /02(b)

Date: 08-03-18

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	10.1	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	9.5	
3	Specific Gravity	2.63	–
4	Bulk Density(Loose) (Kg/l)	1.45	–
5	Bulk Density(Compacted) (Kg/l)	1.51	–
6	Water Absorption(%)	0.21	–
7	Aggregate crushing Value(%)	23.8	Max 30% for Aggregates to be used in concrete for wearing Surface, In case Aggregate Crushing Value Exceeds 30% then the test for ten percent fines should be conducted for Aggregates to be used in concrete other than for wearing Surface.
8	Aggregate Impact Value(%)	23.1	30% for Aggregates to be used in concrete for wearing Surface, 45% for Aggregates to be used in concrete other than for wearing Surface.

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